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A Pipe Separator

The present invention concerns a pipe separator for separation of fluids, for example separation of oil, gas and water in connection with extraction and production of oil and gas from formations under a sea bed, comprising an extended, tubular separator body that has a diameter at inlet and outlet ends that is mainly equivalent to a diameter of a transport pipe to which the pipe separator is connected, a cyclone arranged upstream of the separator body for separation of any gas present, and an electrostatic coalescer arranged in connection with the pipe separator.

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Applicant's own Norwegian Patent Application Nos. 19994244, 20015048, 20016216, 20020619 and 20023919 describe prior art pipe separators for separation of oil, water and/or gas downhole, on a sea bed or on a surface, on a platform or similar. In particular, Patent Application No. 20023919 shows a solution in which a separate, compact electrostatic coalescer is used in connection with a pipe separator. Oil flow from the pipe separator is passed to the coalescer downstream of the pipe separator and subsequently to a further oil/water separator that removes remaining water after separation in the pipe separator. This prior art solution is particularly designed for, but not limited to, medium heavy oils with water removal from an oil phase to 0.5% water, and using a cyclone or other type of gas/liquid separator to remove gas before the pipe separator.

This solution requires an additional separator, which is complicated and expensive, and the coalescer itself, which is of a vertical type, cannot be reamed or pigged (cleaned) in a